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BEYER WEAVER LLP
P.O. BOX 70250
OAKLAND, CA 94612-0250

EXAMINER
JOO, JOSHUA

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/034,368	GOURLAY ET AL.
	Examiner	Art Unit	
	Joshua Joo	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-9,11-27 and 29-42* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2, 4-9, 11-27, 29-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Detailed Action

Response to Communication dated 8/10/2007

1.   Claims 1-2, 4-9, 11-27, 29-42 are presented for examination.

Response to Arguments

2.   Applicant's arguments filed 8/10/2007 have been fully considered but they are not persuasive.

Applicant argued that:

3.   (1) Brendel says nothing about transmitting a plurality of response packets, wherein each

response packet is transmitted via a different one of a plurality of service providers. Brendel indicates

that each packet is transmitted via the same ISP.

4.   In response, Brendel teaches,

> i)   col. 5, lines 51-55 (See also col. 7, lines 27-30) "Client 10 requests a new connection
>   with server 12 by transmitting a SYN packet to server 12. Server 12 responds by sending
>   multiple SYN+ACK packets..."

> ii)   col. 5, lines 55-56, "Each of the multiple SYN+ACK packets are sent over a different
>   path from server 12 to client 10"

> iii)   col. 10, lines 61-64, "each packet header specifies a different path by including a
>   different list of IP addresses of intermediate routers"

5.   In the above-cited section (i), Brendel teaches of a sending a plurality of packets in response

(claimed plurality of response packets) to request for a new connection with the server. Cited sections (ii)

and (iii) teaches of sending the response packets over different paths, wherein the different paths are

identified by different IP addresses. Brendel further teaches,

> iv)   col. 5, lines 65-67, "Path-matching routing table 58 is consulted by IP layer 54 when
>   these routes are determined. Table 58 contains a list of alternate gateways..."

6.   From the cited section (iv), Brendel teaches that alternative gateways may be used as routes that

are determined for sending the packets specified in section (iii). The gateways may be considered as

service providers since gateways are known in the art to provide services such as interconnecting

networks and routing packets and/or providing communication between two different protocols.

Therefore, Brendel teaches of sending each packet via a different one of a plurality of service providers.

Brendel further teaches that the routing table may comprise routes to different major ISPs (col. 11, lines

2-9), wherein packets may be sent to different ISPs (col. 12, lines 1-18).

7.   (2) Regarding claims 27, 29-33 and 38-41, Brendel teaches away from transmitting a plurality of

response packets, where each of the response packets is transmitted via a different ISP.

8.   In response, it is noted that the features upon which applicant relies (i.e., transmitting packets via

a different ISP) are not recited in the rejected claim(s). Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988

F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Examiner respectfully notes that an Internet Service

Provider (ISP) is an example of a service provider but claiming a service provider is not equivalent to

claiming an ISP. The broadest reasonable interpretation of a service provider may be given as a device

that provides a type of service.

Claim Rejections - 35 USC § 112

9.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

10.   Claims 1-2, 5-8, 31, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

    i)   Regarding claims 1, 6-8, the limitation of "the one of the plurality of response packets"
            lacks sufficient antecedent basis. It is not clear as to which packet "the one" is referring
            to in the claims.

    ii)   Regarding claim 31, the phrase "The method as recited in claim 27" lacks sufficient antecedent basis since claim 27 claims "A network device".

    iii)   Regarding claim 34, the limitation of "the one of the plurality of response packets" lacks sufficient antecedent basis. It is not clear as to which packet "the one" is referring to in the claims.

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12.   Claims 1-2, 4, 6-8, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, US Patent #6,587,438 (Brendel hereinafter), in view of Ishizaki et al, US Patent #6,810,421 (Ishizaki hereinafter).

13.   As per claims 1, 6-8, Brendel teaches substantially the invention as claimed including a network device adapted for processing a service request, Brendel's teachings comprising:

a processor; and a memory, at least one of the processor and the memory being adapted for (col. 5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are inherent.):

receiving a service request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.);

sending a plurality of response packets in response to receiving the service request, each of the plurality of response packets identifying a different type of service via which to send the one of the plurality of response packets (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by ending multiple packets, each packet over different path.), wherein the type of service directly corresponds to a service provider, such that each of the plurality of response packet identifies a different one of a plurality of

service providers (col. 9, line 61-col. 11, line 10. Each packet specifies a different path by including a

different list of IP addresses. col. 11, line 5-10. List of alternative routes to different ISPs, e.g. AOL,

MSN, PacBell.); and

maintaining an IP address "of each different service" (col. 10, line 60-col. 11, line 10. Table

contains list of IP addresses.), thereby enabling the service request to be processed via an IP address

identified in a first one of the plurality of response packets to be received (col. 6, lines 20-24. Client

sends packet to the server using the path of the packet that arrived first, i.e. based on identified address in

the packet. col. 5, lines 2-5. Use path for all future packets, i.e. process request via IP address of the

path.).

14.   Brendel teaches of maintaining IP addresses of different type of services (ISPs, routers,

gateways). Brendel does not specifically teach of maintaining a mapping of each different type of service

to an IP address and an IP address associated with a type of service identified in the first one of the

plurality of response packets.

Ishizaki teaches of maintaining records that map each different type of service to an IP address

and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col.

8, lines 13-15; col. 10, lines 4-11).

15.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the teachings of Brendel and Ishizaki to maintain a mapping of each different type of service

to an IP address and for the one of the plurality of response packets taught by Brendel to identify a type of

service associated with the IP address used to process the request. The motivation for the suggested

combination is that Ishizaki's teachings would provide the user with service information including the

type of service provider that may be used to service the request.

16.   As per claim 2, Brendel teaches the network device as recited in claim 1, wherein the service

request is a TCP connection request or a DNS request (col. 5, lines 51-56; col. 7, lines 14-17. Request for

TCP connection.).

17.   As per claim 4, Brendel teaches the network device as recited in claim 1, wherein the type of

service indicates a specific network connection or domain (col. 5, lines 55-56; col. 10, lines 61-64. Path

identified IP address. col. 11, lines 4-8. Path to ISP.).

18.   As per claim 42, Brendel teaches the network device as recited in claim 1, wherein the type of

service identifies the service provider (col. 9, line 61-col. 11, line 10. Packet is specified by list of IP

addresses that may correspond to routers, gateways, or ISPs.).

19.   Claims 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel and Ishizaki, in

view of Coughlin, US Patent #6,810,411 (Coughlin hereinafter).

20.   As per claim 5, Brendel and Ishizaki taught of maintaining records adapted for indicating a type

of service that corresponds to one of the plurality of service providers. Brendel and Ishizaki do not

specifically teach the method of claim 7 wherein maintaining the mapping comprises maintaining a

plurality of A-records, each of the A-records having a type of service field adapted for indicating a type of

service that corresponds to one of the plurality of service providers and wherein receiving the request

comprises receiving a DNS A-record request.

    Coughlin teaches of maintaining a mapping of host names to IP addresses and receiving a request

for DNS translation (col. 4, lines 39-44; col. 5, lines 44-51).

21.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the suggested system of Brendel and Ishizaki with the teachings of Coughlin to implement A-

records as taught by Coughlin and for the A-records to have a type of service that corresponds to one of

the service providers as taught by the system. It would have been also obvious to one of ordinary skill in

the art at the time the invention was made to combine the teachings to receive DNS requests. The

motivation for the suggested combination is that Coughlin's teachings would increase the capability of

the system by allowing the system to provide different services including DNS translation and provide

still provide an optimum path for services.

22.   Claims 9, 12-15, 19, 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Brendel, in view of Coughlin.

23.   As per claims 9, 23-25, Brendel teaches substantially the invention as claimed including a

network device adapted for processing a request, comprising:

         a processor; and a memory, at least one of the processor and the memory being adapted for (col.

5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are inherent.):

         receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.); and

         .   transmitting a plurality of responses in response to the request, each of the plurality of responses

being transmitted via a different path associated with a different type of service (col. 5, lines 52-57. Send

multiple packets, each packet over different path. col. 10, lines 61-64. Each packet specifies a different

path including a different list of IP addresses.), wherein the type of service identifies or is mapped to a

service provider such that each of the plurality of responses is transmitted via a different one of plurality

of service providers (col. 10, line 65-col. 11, line 9. Table determines routes. Table contains list of

alternate gateways, ISPs. col. 12, lines 4-20. Packets sent to different ISPs. One packet sent to a local

ISP while other packets are sent to different regions.).

24.   Brendel does not specifically teach of the request comprising a DNS request indicating a domain name for which an IP address is requested and the responses comprising DNS responses.

Coughlin teaches of a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31).

25.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin to transmit a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses as both teachings deal with identifying a first response to determine an optimum service. The motivation for the suggested combination is that Coughlin's teachings would increase the capability of the system by allowing the system to provide different services including DNS translation and provide still provide an optimum path for services.

26.   As per claim 12, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches wherein each of the plurality of responses has the same source address and destination address (col. 5, lines 55-56. Packets sent from server to client.).

27.   As per claim 13, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches at least one of the processor and memory being adapted for: providing a service identifier in each of the plurality of responses, the service identifier identifying a service provider that is used to route the corresponding response (col. 10, lines 61-64. Packet

header specifies a different path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses

mapped to routers, gateways, and ISPs. Packet contains IP address to send packet.).

28.   As per claim 14, Brendel and Coughlin taught the network device as recited in claim 9, wherein a

plurality of DNS responses are sent. Brendel further teaches the device wherein each of the plurality of

responses comprises a type of service field adapted for indicating a type of service to be used during next-

hop based routing based on the type of service (col. 10, lines 61-64. Packet header specifies a different

path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to routers,

gateways, and ISPs. col. 11, lines 54-64. Router determines next IP address and sends the packet.).

29.   As per claim 15, Brendel and Coughlin taught of transmitting a DNS request and transmitting a

plurality of DNS responses. Brendel does not specifically teach the method of claim 24, wherein

receiving a DNS A-record request and transmitting a plurality of A-records.

        Coughlin teaches of transmitting a request that requests an IP address corresponding to a domain

name and transmitting a plurality of responses comprising IP address corresponding to a domain name

(col. 5, lines 26-31, 44-51; col. 6, lines 22-31, 37-44).

30.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the teachings of Brendel and Coughlin to transmit a request that requests an IP address

corresponding to a domain name and transmit a plurality of responses comprising IP address

corresponding to a domain name. The motivation for the suggested combination is that Coughlin's

teachings would increase the capability of the system by allowing the system to provide different services

including DNS translation and provide still provide an optimum path for services.

31.   As per claim 19, Brendel does not specifically teach the method as recited in claim 24, wherein transmitting a plurality of DNS responses comprises transmitting the plurality of DNS responses to client DNS server associated with a client initiating the DNS request.

Coughlin teaches of transmitting a plurality of DNS response to a client (local) DNS server associated with a client initiating the DNS request (col. 6, lines 23-31).

32.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel and Coughlin to transmit a plurality of DNS response to a client (local) DNS server associated with a client initiating the DNS request. The motivation for the suggested combination is that Coughlin's teachings would provide a local DNS server that would distribute the load of servers on the network (col. 4, lines 47-51).

33.   As per claim 22, Brendel and Coughlin taught the method as recited in claim 24 of transmitting a plurality DNS responses. Brendel further teaches of transmitting a plurality of responses via one or more intermediate routers configured to perform next-hop policy based routing based on the type of service (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

34.   As per claim 26, Brendel teaches substantially the invention as claimed including a system for selecting a service provider via which to process a client request, comprising:

a network device adapted for receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.) and transmitting a plurality of responses, each of the plurality responses being transmitted via a different path associated with a different type of service (col. 5, lines 52-57. Send multiple packets, each packet over different path. col. 10, lines 61-64. Each packet specifies a different path including a different list of IP addresses.), wherein the type of service identifies a service provider such that each of

the plurality of responses is transmitted via different one of a plurality of service providers (col. 10, line 65-col. 11, line 9. Table determines routes. Table contains list of alternate gateways, routers, ISPs. col. 12, lines 4-20. Packets sent to different ISPs. One packet sent to a local ISP while other packets are sent to different regions.);

one or more intermediate routers configured to perform next hop policy based routing based on the type of service (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to routers, gateways, and ISPs. col. 11, lines 54-64. Router determines next IP address and sends the packet.); and

the client being configured to identify a first one of the plurality of responses to be received from the network device (col. 6, lines 13-20. Client responds to packet that arrives first.).

35.   Brendel does not specifically teach of the requesting comprising a DNS requesting indicating a domain name for which is an IP address is requested, transmitting a plurality of DNS responses, a client DNS server associated with a client initiating the DNS request, the client DNS server being configured to identify a first one of the plurality of DNS responses to be received from the network device and to respond to the client with an IP address of the service provider identified by the type of service identified in the first one of the plurality of DNS responses.

Coughlin teaches a system comprising: a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31. Receive DNS responses.); a client DNS server associated with a client initiating the DNS request and the client DNS server being configured to identify a first one of a plurality of DNS responses (col. 6, lines 23-32. first server selects first arriving DNS response.); and respond to the client with an IP address of a service provider (host) identified by the type of service identified in the first one of the plurality of DNS responses (col. 6, lines 37-40. Communicate first arriving IP address.).

36.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the teachings of Brendel and Coughlin for the request to comprise a DNS request indicating a

domain for which an IP address is requested and send a plurality of DNS responses; implement a client

DNS server associated with a client initiating the DNS request and the client DNS server being

configured to identify a first one of a plurality of DNS responses; and respond to the client with an IP

address of a service provider (host) identified by the type of service identified in the first one of the

plurality of DNS responses.   The motivation for the suggested combination is that Coughlin's teachings

would increase the capability of the system by allowing the system to provide different services including

DNS translation and provide efficient paths for connecting clients as taught by Brendel while allowing a

client to identify and connect to a suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

37.   Claims 11, 16-18, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Brendel and Coughlin, in view of Ishizaki.

38.   As per claim 11, Brendel and Coughlin taught the method as recited in claim 24, wherein a

plurality of DNS responses are sent. Brendel further teaches wherein each of the plurality of responses

includes a different one of a plurality of IP addresses (col. 10, lines 61-64. Packet header specifies a

different path including different IP addresses. col. 11, lines 2-10. IP addresses mapped to routers,

gateways, and ISPs.). Brendel does not specifically teach each of the plurality of IP addresses being

mapped to a different type of service.

        Ishizaki teaches of maintaining records that map each different type of service to an IP address

and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col.

8, lines 13-15; col. 10, lines 4-11).

39.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the suggested system of Brendel and Coughlin with the teachings of Ishizaki to maintain a

mapping of each different type of service to an IP address and for the one of the plurality of response

packets as taught by Brendel to identify a type of service associated with the IP address used to process

the request. The motivation for the suggested combination is that Ishizaki's teachings would provide the

user with service information including the type of service provider that may be used to service the

request.

40.   As per claim 16, Brendel and Coughlin taught of the plurality of A-records. Brendel does not

specifically teach the network device wherein each of the plurality of the records include a different IP

address that is mapped to a service provider.

       Ishizaki teaches of maintaining records that map each different type of service to an IP address

and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col.

8, lines 13-15; col. 10, lines 4-11).

41.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the suggested system of Brendel and Coughlin with the teachings of Ishizaki to maintain a

mapping of each different type of service to an IP address and for the one of the plurality of response

packets taught by Brendel to identify a type of service associated with the IP address used to process the

request. The motivation for the suggested combination is that Ishizaki's teachings would provide the user

with service information including the type of service provider that may be used to service the request.

42.   As per claim 17, Brendel does not specifically teach the network device as recited in claim 16,

wherein each of the plurality of A-records further includes a field adapted for identifying the service

provider.

Coughlin teaches of the plurality of A-records identifies the service provider (col. 2, lines 25-31; col. 5, lines 26-39; col. 6, lines 25-31).

43.   It would have been obvious to one of ordinary skill in the art to include a field that would allow identification of the service provider in the response. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel, Coughlin, and Ishizaki for the plurality of A-records to identify a service provider. The motivation for the suggested combination is that Coughlin's teachings would allow the client to identify and connect to a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

44.   As per claim 18, Brendel does not specifically teach the network device as recited in claim 17, at least one of the processor or the memory being further adapted: maintaining a table of A-records that includes the plurality of A-records.

Coughlin teaches of maintaining a mapping of host names to IP addresses (col. 4, lines 39-44; col. 5, lines 44-51).

45.   It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Brendel, Coughlin, and Ishizaki to maintain a mapping of host names to IP addresses. The motivation for the suggested combination is that Coughlin's teachings would enhance the system by allowing the server to respond to different types of requests including providing a DNS response, and determining an optimum path for establishing a connection.

46.   As per claim 20, Brendel does not specifically teach the method as recited in claim 19, wherein the client DNS server is configured to identify a first one of the plurality of DNS responses to be received

from the network device and to respond to the client with an IP address of the service provider

corresponding to the type of service identified in the first one of the plurality of DNS responses.

Coughlin teaches of a client DNS server (local server) configured to identify a first one of the

plurality of DNS responses to be received (col. 6, lines 25-31) and to response to the client with an IP

address of the service provider identified in the first one of the plurality of DNS responses (col. 6, lines

36-43).

47.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the teachings of Brendel and Coughlin to identify a first one of the plurality of DNS responses

to be received and to response to the client with an IP address of the service provider corresponding to the

type of service identified in the first one of the plurality of DNS responses, which would allow the client

to identify and connect to a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

48.   Brendel and Coughlin teaches of responding to an IP address of the service provider but still do

not specifically teach of responding with an IP address of the service provider corresponding to the type

of service.

Ishizaki teaches of providing a packet comprising an IP address associated with a type of service

(col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11).

49.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the suggested system of Brendel and Coughlin with the teachings of Ishizaki for the one of the

plurality of response packets taught by Brendel to identify an IP address associated to the type of service

used to process the request. The motivation for the suggested combination is that Ishizaki's teachings

would provide the user with service information including the type of service provider that may be used

to service the request.

50.   As per claim 21, Brendel and Coughlin taught the method as recited in claim 20, wherein the

client DNS server is further configured to obtain the type of service from the first one of the plurality of

DNS responses. However, Brendel and Coughlin do not specifically teach wherein the client DNS server

is configured to obtain an IP address of the service provider corresponding to the type of service from a

mapping table.

        Ishizaki teaches of obtaining an IP address of a service provider corresponding to the type of

service from a mapping table (col. 7, lines 9-14. Table comprises service types associated with addresses

corresponding to servers. Col. 10, lines 1-11. Reply message comprises type of service and address of

server.).

51.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the suggested system of Brendel and Coughlin with the teachings Ishizaka for the one of the

plurality of DNS responses as taught by the system to comprise an IP address of a service provider

corresponding to the type of service and for the client DNS server to obtain the IP address of a service

provider corresponding to the type of service from a mapping table. The motivation for the suggested

combination is that Ishizaki's teachings would provide the server with service information including the

type of service provider that may be used to service the request.

52.   Claims 27, 29-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, in view

of Bohannon et al. US Patent #7,103,651 (Bohannon hereinafter).

53.   As per claims 27, 39-41, Brendel teaches substantially the invention as claimed including a

network device adapted for establishing a TCP connection, Brendel's teachings comprising:

        a processor; and a memory (col. 5, lines 51-56. Server is able to receive and respond to a request.

Processor and memory are inherent.), at least one of the processor or the memory being adapted for:

receiving a TCP connection request from a client (col. 5, lines 51-52; col. 7, lines 14-19. Request

for TCP connection.);

sending a plurality of TCP acknowledgement packets to the client via a plurality of paths, each of

the plurality of paths corresponding to a type of service, wherein the type of service indicates a service

provider such that each of the plurality of TCP acknowledgement packets is sent via a different one of a

plurality of service providers (col. 5, lines 52-56. Send multiple SYN+ACK packets, each SYN+ACK

packet sent over different path. col. 10, line 65-col. 11, line 9. Table determines routes. Table contains

list of alternate gateways, routers, ISPs. col. 12, lines 4-20. Packets sent to different ISPs. One packet

sent to a local ISP while other packets are sent to different regions.);

receiving an acknowledgement message from the client that indicates receipt of one of the

plurality of TCP acknowledgement packets sent by the network device (col. 6, lines 18-23. Client sends

ACK packet through ISP 18 to server.);

ascertaining the type of service via which the TCP acknowledgement packet received by the

client was transmitted (col. 6, lines 28-31. Examine sequence number in ACK packet to determine

route.).

54.   Brendel does not specifically teach of providing an HTTP redirect to an IP address directly

corresponding to the service provider indicated by the type of service.

Bohannon teaches of receiving a plurality of HTTP responses and providing an HTTP redirect to

an IP address corresponding to a service provider (col. 10, lines 40-44).

55.   It would have been obvious to one of ordinary skill in the art at the time the invention was made

to combine the teachings of Brendel and Bohannon for a service provider to comprise a web server and

provide a HTTP redirect to an IP address corresponding to the server provider. The motivation for the

suggested combination is that Bohannon's teachings would allow automatic redirection to a proper web

site and/or identify an optimum web server to service client's requests (col. 10, lines 43-45)

56.   As per claim 29, Brendel teaches the method as recited in claim 40, wherein the TCP connection

request comprises a TCP packet having a synchronization flag set and wherein each of the plurality of

TCP acknowledgement packets comprise a TCP packet having a synchronize flag set and an

acknowledgment flag set (col. 5, lines 41-46; col. 6, lines 55-60. SYN flag set for packet sent by client.

SYN+ACK packets sent by server.).

57.   As per claim 30, Brendel teaches the network device as recited in claim 27, wherein each of the

plurality of TCP acknowledgement packets comprises a type of service field adapted for indicating a

service provider (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP

addresses. Routes to ISPs.).

58.   As per claim 31, Brendel teaches the method as recited in claim 27, wherein each of the plurality

of TCP acknowledgment packets comprise a type of service field adapted for indicating a type of service

to be used during next-hop based routing on the type of service (col. 10, lines 61-64; col. 11, lines 1-11,

54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine

next IP address in route and sent packet.).

59.   As per claim 32, Brendel teaches the network device as recited in claim 27, wherein each of the

plurality of TCP acknowledgement packet includes a sequence number field, the at least one of the

processor or the memory being further adapted for comprising: providing a sequence number in the

sequence number field indicating an order in which the plurality of TCP acknowledgements packets are sent (col. 6, lines 42-44; col. 10, lines 14-20. Order of packets is indicated by sequence numbers.).

60.   As per claim 33, Brendel teaches the network device as recited in claim 32, wherein receiving an acknowledgment message from the client that indicates receipt of one of the plurality of TCP acknowledgment packets sent by the network device comprises: receiving an acknowledgement message from the client including the sequence number of a first one of the plurality of TCP acknowledgement packets received by the client (col. 6, lines 18-23; col. 7, lines 41-46. Client responds with ACK packet. ACK packet contains server's sequence number incremented by one. (S_ISN+1)).

61.   As per claim 34, Brendel teaches the network device as recited in claim 33, where each of the plurality of TCP acknowledgement further comprises: a type of service field adapted for indicating a service provider via which the one of the plurality of TCP acknowledgement packets is to be transmitted (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

62.   As per claim 35, Brendel teaches the network device as recited in claim 34, at least one of the processor or the memory being further adapted for:

         obtaining the sequence number from the acknowledgment message received from the client (col. 6, lines 24-31; col. 8, lines 49-51. Read sequence number in the ACK packet.);

         determining a type of service associated with the sequence number (col. 9, line 65-col. 10, line 2; col. 11, lines 17-21. Compare sequence fields to identify path.); and

         ascertaining an IP address corresponding to the service provider indicated by the type of service (col. 11, lines 15-22. Path IP address field used to specify path.).

63.   As per claim 36, Brendel teaches the network device as recited in claim 35, wherein ascertaining

an IP address corresponding to the service provider indicated by the type of service comprises:

        performing a look up in a mapping table, the mapping table including a plurality of IP addresses,

each of the plurality of IP addresses corresponding to a different service provider (col. 11, lines 2-16.

Table contains IP addresses of routers and routes to ISPs.).

64.   As per claim 37, Brendel teaches of receiving a plurality of TCP acknowledgement packets, each

of the plurality of TCP acknowledgement packets further comprises: a type of service field adapted for

indicating a service provider via which the corresponding acknowledgement packet is to be transmitted

(col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes

to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

65.   As per claim 38, Brendel teaches the network device as recited in claim 32, where each of the

plurality of TCP acknowledgment packets further comprises a type of service field adapted for indicating

a type of service to be used during next-hop routing based on the type of service (col. 10, lines 61-64; col.

11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to gateways and/or ISPs

col. 11, lines 54-64. Determine next IP address in route and sent packet.).

Conclusion

66.   A shortened statutory period for reply to this Office action is set to expire THREE

MONTHS from the mailing date of this action.

67.   Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be

reached on Monday to Thursday 8AM to 5PM and every other Friday.

68.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this

application or proceeding is assigned is 571-273-8300.

69.   Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

October 23, 2007
JJ

SUPERVISORY PATENT EXAMINER
NATHAN FLYNN